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## CONSCRIPTS IN THE SOVIET SSBN FORCE Agenda Item P-7

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WORKING GROUP PAPER, AGENDA ITEM P-7

CONSCRIPTS IN THE SOVIET SSBN FORCE (U)

NAVY FIELD OPERATIONAL INTELLIGENCE OFFICE  
ROBERT SUGGS

SUMMARY

There has been considerable discussion in the intelligence community over the extent and nature of conscript participation in the Soviet SSBN force. This paper approaches the problem from both a qualitative and quantitative standpoint, using a review of Soviet open-source references to conscript participation in SSBN crews, and statistical analyses of alternative hypothetical crew and force structures. Within the limitations of data and methodology, the evidence presented makes a strong case for significant numbers of conscripts (i.e., c. 33% of total crew of 145) aboard Yankee and Delta SSBNs. Use of extended service personnel in place of conscripts would require diversion of excessive percentages (i.e., 24 to 28%) of the total extended service component of the Soviet Navy to the SSBN force. Conscript supply for the Soviet SSBN force may be just adequate at present to meet the demand, and dual and reserve crew manning requirements for advanced SSBNs and SSGNs may create a shortage. The analysis raises a number of questions about long-standing assumptions concerning Soviet Navy personnel in general and submarine manning in particular, and enumerates critical indicators of manpower difficulties that may be observed by the intelligence community.

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I. INTRODUCTION (U)A. Purpose (U)

(S) Previous CANUKUS papers on Soviet Navy personnel and training have been broad in scope, considering topics such as Soviet military manpower policy, Soviet Navy manpower supply and demand, and various aspects of navy training.<sup>1/</sup> This paper represents a departure from that tradition, focusing on a specific area of high priority personnel concern for the Soviet Navy: the manning of the SSBN force.

(C) There has been considerable discussion in the intelligence community over the extent and nature of conscript participation in the Soviet SSBN force. The purpose of this paper is to review the evidence for the use of conscripts in the Soviet SSBN force, to develop and test some alternative hypotheses concerning the use of conscripts, and to arrive at some tentative conclusions concerning current Soviet practices. It is intended to stimulate discussion and prompt examination of a wider range of evidence than has generally been brought to bear on this problem. It is hoped that the paper will also encourage the use of a systems approach, i.e., viewing the problem of Soviet SSBN manning in the perspective of the overall Soviet Navy manpower situation, in which the Soviet Navy must meet operational demands with finite manpower resources.

B. Background (U)

(U) The question of conscript utilization has direct relevance to any assessment of the overall combat readiness of the Soviet SSBN force. The Soviet Navy is faced with a series of interrelated problems in its attempt to maintain adequate manning levels throughout the next decade. The size of the conscript cohort is declining as a result of birth rate fluctuations in the 50's and 60's: the number of conscripts available to all Soviet services will thus continue to decline in the immediate future.<sup>2/</sup> The educational quality of the conscript cohort may also be declining. Although the USSR has publicly established a goal of completed secondary education (10th grade) for 100 percent of the population, there is a wide difference in academic quality between the kinds of education provided in various types of 10 year schools (i.e., general, specialized, and vocational) as well as between urban and rural schools of the same type. In addition, there is evidence that educational standards are being compromised to meet the nationally-established norms for completion.<sup>3/</sup>

(S) The Soviet Navy and Strategic Rocket Forces have been viewed in the past as receiving first priority for high quality conscripts. Recent information does not support that view entirely,

TOP SECRET

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but regardless of priority, all Soviet services will feel the pinch of the declining size in draft age cohort, as well as pressures caused by possible educational deficiencies among the conscripts.

(C) The problems created for the Soviet Navy by declining quantity and quality of conscripts are further compounded by the rapid increase in size and technological complexity of platforms and systems (e.g., Delta, Typhoon and Oscar classes), and the reduction of conscript service to 3 years for personnel afloat by the 1967 Law on Conscription. The Soviets must therefore find a way to maintain manning and proficiency levels when smaller numbers of possibly less well-prepared conscripts are available for a shorter period of time. To do this, the Soviet SSBN force faces a particularly difficult problem because of dual crew-and-reserve-crew requirements that enable a certain proportion of the submarines to be maintained in patrol or duty status. The total number of personnel needed to maintain a single unit may exceed twice its normal complement.

(C) Heavy reliance on draftees in the Soviet SSBN force could clearly make the readiness of the force dependent on the swings in personnel proficiency produced by the biannual conscript turnover of about 12 to 15 percent. Alternatively, it might lead to personnel raiding in other areas of the Soviet Navy, thus producing weaknesses in order to maintain SSBN manpower and proficiency levels. Alternative methods of manning the SSBN fleet can also be envisioned (e.g., greater reliance on warrant officer and extended service personnel, selected conscript extension, etc.), but these methods would produce effects--many possibly deleterious--that would appear elsewhere in the fleet.

(S) In the following sections, the evidence for conscript participation in SSBN crews will be discussed and evaluated. Using these data, some hypothetical force structures will then be developed and considered against our knowledge of overall Soviet Navy manpower, and submarine force manpower in particular. Consideration of these hypothetical structures will lead to a better appreciation of the problems faced by the Soviets as well as an improved understanding of the consequences of assuming various conscript/extended service mixes on SSBN crews.

## II. CONSCRIPTS IN THE SOVIET SSBN FORCE (U)

### A. Qualitative Evidence (U)

(U) Evidence of conscript participation in SSBN crews is available in both classified and unclassified sources.

TOP SECRET

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1. Three SSBN Units Appearing Frequently in the Soviet Press (U)

a. (U) The "Leninets," probable lead unit of the Yankee series, has been featured in a variety of open source articles<sup>4/</sup> referring to conscripts (i.e., Seamen, Senior Seamen, and Petty Officers 2nd class) in the crew. This unit, a "show boat," has been a consistent winner of North Fleet and Soviet Navy training awards for approximately 8 years, the most recent award being given for the 1980-81 training year.<sup>5/</sup> The articles provide explicit details concerning the special methods used to train new conscripts. They describe the assignment of new conscripts to first-class specialists who are terminating their conscripted service obligation and who are responsible for bringing the new conscripts up to first class levels of performance before being discharged to the reserves. (This may require a longer period of overlap between the incoming and outgoing conscript than the normal 1- to 3-month period, and may imply that the conscripts arrive already holding at least third, if not second class specialist qualifications, attained at a specialist school or on a previous operational assignment.) Conscript birthdays are also marked by special celebrations, a common practice in elite units of the Soviet armed forces.<sup>6/</sup>

b. (U) Another unit frequently seen in Soviet open sources is the SSBN of unknown class, probably a Delta, commanded by Capt 1st Gennadiy A. Nikitin. Numerous direct and indirect references appear in these articles indicating the presence of conscripts aboard the unit, which is further distinguished as the initiator of socialist competition in the Northern Fleet.<sup>7/</sup>

c. (U) A third and final "show boat" is the "60 Year Anniversary of the Great October," tentatively identified on the basis of deployment patterns as a Delta II-III unit, commanded by Capt 1st Vladlen V. Naumov. References to this unit--also designated as an initiator of competition--emphasize the importance of the special measures developed to integrate conscripts into the crew rapidly and to maintain the overall level of crew proficiency and readiness.<sup>8/9/</sup>

2. HUMINT Sources (U)

(C) Emigre'/defector information regarding SSBN manning is relatively restricted, but nevertheless supportive of the open-source information discussed above.

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TOP SECRET

TOP SECRET

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cantly, this unit operated with civilian specialists aboard during patrols, trials, and tests, including missile firings. The presence of these specialists could indicate a dearth of warrant officer and possibly junior officer personnel. An alternative interpretation is that the civilians were required for tests and evaluations of various equipment innovations.

### 3. Evidence From Other Nuclear or Ballistic Missile Submarines (U)

(C) While there has been considerable discussion over the use of conscripts aboard SSBNs, relatively little has been said concerning their participation in crews of other nuclear submarines (SSNs, SSGNs) or aboard SSBs, and there appears to be general acceptance of the proposition that significant numbers of conscripts are involved in such crews. This is interesting since propulsion and weapons systems of Soviet SSNs/SSGNs are certainly as complex as those on an SSBN (e.g. detecting, classifying, localizing, and firing on the move at a maneuvering target certainly involves competence in sensors and fire control, as is the case with an SSBN).

a. (U) Open-source literature describing SSNs/SSGNs definitely indicates the presence of conscripts in significant numbers aboard such units.<sup>11/</sup> Concern is manifested for the expedient integration of these personnel into the crew by methods similar to those used on SSBNs. Conscript birthdays are marked by special celebrations and the issuing of a certificate showing the position of the boat on the individual's birthday.

(C) Informative HUMINT sources are available for the Golf-I class SSB.<sup>12/</sup> The missile department aboard these units consisted of one officer and three conscripts. The navigation department, which worked in cooperation with the missile crew during a shoot, was also heavily staffed with conscripts. The SS-N-4 missiles aboard the Golf SSBs were more primitive than those involved in modern SSBNs, and the navigation and missile systems seem to have required relatively little maintenance by the crew, according to the source. It is nevertheless significant that the operation of these systems was assigned to conscripts, who were apparently able to handle them satisfactorily.

(C) Other HUMINT sources further support the importance of conscripts in the submarine force. [redacted] 25X1  
[redacted] stated that 80-85 percent 25X1  
of the Soviet submarine enlisted personnel were conscripts (mostly drawn from rural communities, ostensibly for their increased receptivity to discipline).<sup>13/</sup> [redacted] 25X1  
[redacted] stated that conscripts generally did not care for 25X1  
nuclear submarine duty because of the dangers involved, but received

TOP SECRET



TOP SECRET

AUSCANUKUS-003-82

better food in larger quantities than their non-nuclear counterparts, had better recreational facilities aboard ship, and received longer leave periods following lengthy voyages.<sup>14/</sup>

#### 4. Summary (U)

(C) The information reviewed above indicates presence of conscripts on Soviet SSBN units in quantities sufficiently large to require special attention. This appears to be simply an extension of normal manning practices of the Soviet submarine force in conventional and nuclear-powered units. Further, the information suggests that there is little basis for supposing that conscripts, who make up a major crew component on SSN/SSGNs and SSBs, cannot also confront the technological complexity of an SSBN on which only the missile and fire control systems are qualitatively different.

#### B. Quantitative Evidence: Manpower Estimates (U)

##### 1. SOVA Data Base (S)

(TS) Additional [ ] sources have been used in developing the CIA SOVA military-economic data base, used to estimate force size as well as total personnel costs. Organizational and manning tables were constructed for specific types of units using data furnished by [ ] Then a large number of specific organizational billets were identified for which pay could be computed in terms of position, rank, longevity, sea service, hazardous duty, and remote area factors. The final tables represent estimates of varying precision. Estimates for full-crew size of "F" or "W" class SSs are more reliable than those for the more advanced classes (e.g., "Y," "D," and "Typhoon" are clearly less precise). It is unlikely, however, that the estimates err by more than 20 percent or so in any direction because of the systematic manner in which they are constructed and the internal logic of the organizational composition.

(S) Table 1 provides SOVA estimates of crew size and composition, showing conscript, extended service, warrant officer and officer complements for selected SSBNs, SSGNs, SSNs and SSs. SSBN crew figures are totals for both "A" and "B" crews. The CIA believes that not all officer positions are rotated between the two crews; therefore dividing the total crew size by two will not yield the unit complement. Compared to the warrant officer and extended service enlisted components of SSBN crews, there is a surprisingly large number of conscripts. While the proportion of warrant officers remains relatively stable (8-10 percent of the total crew), the number of extended personnel is generally small.

TOP SECRET

TOP SECRET

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TABLE 1Comparative Submarine Crew Sizes (S)

<u>Class</u>	<u>Conscript</u>	<u>Extended Service</u>	<u>Warrant Officer</u>	<u>Officer</u>
Y/D (both crews)	169	6	22	41
Typhoon (both crews)	200	6	24	48
Hotel I/II/III	60	10	0	15
Victor I/II	64	2	9	14
Alpha	55	0	6	14
Foxtrot	50	0	7	13

(Source: CIA SOVA Data Base)

TOP SECRET



TOP SECRET

AUSCANUKUS-003-82

(S) Regardless of the initial impression created, these qualitative estimates can serve as a valuable point of departure for developing and testing various manning hypotheses for the Soviet SSBN force and the submarine force as a whole. To use them in such a fashion in no way implies a judgment of their validity.

## 2. Personnel Estimates for the SSBN Force (U)

(S) The SOVA crew estimates were combined with current DIA Naval Order of Battle listings to develop total conscript, warrant officer, and extended service enlisted estimates for the Soviet SSBN force. Two alternative configurations of that force were used: (a) a high option, in which two crews were assumed to exist for each SSBN in the inventory, regardless of availability, and (b) a conservative option, in which crews were assumed to exist only for those units currently carried in the Naval Order of Battle as operationally available. Reserve crews were not considered for the SSBN force for the purposes of this analysis.

(S) The results of this analysis are shown in Table 2; to be evaluated, they must be placed in the perspective of overall Soviet Navy manpower. Total Soviet Navy manpower is currently estimated at about 428,000, of whom approximately 74 percent (317,000) are believed to be conscripts, 8 percent (34,000) extended service men (WO and career enlisted), and 15 percent (64,000) officers. The remainder are cadets.<sup>15/</sup> Of this total force, 193,000 are aboard ship, and about 40,200 of those are in the submarine force.

(S) The analysis in Table 2 shows that the conscripts in the Soviet SSBN force may comprise between approximately 20 and 26 percent of total submarine personnel, and between 2.5 and 3 percent of all Soviet Navy conscripts, while the warrant officers/extended service personnel in the SSBN force may comprise between 3 and 4 percent of the total SSBN force and between 4 and 5 percent of the total Soviet Navy warrant officer/extended service component. Total conscript and extended service personnel in the Soviet submarine force computed using the same alternative force configurations are shown in Table 3.

(S) The high and low options shown in this table may be evaluated by reference to (1) the overall number of personnel in the Soviet submarine force as well as (2), the total Soviet submarine basic school capacity. As shown in the table, the two options would indicate respectively, that 84 and 57 percent of the total submarine force are conscripts, figures which are both obviously extreme, if our knowledge of the proportion of conscripts in the Soviet Navy is reasonably accurate. Examining these figures in the light of carrying capacity of the submarine basic schools of

TOP SECRET

TOP SECRET

AUSCANUKUS-003-82

TABLE 2SSBN Conscript, Warrant Officer, and Extended Service  
Strength (S)

(High and Low Alternative SSBN Force Configurations)

Conscripts

	<u>High Option</u>		<u>Low Option</u>	
	<u>NorFlt</u>	<u>PacFlt</u>	<u>NorFlt</u>	<u>PacFlt</u>
D I	1521	1521	1014	1183
D II	676		507	
D III	1521	676	1014	696
Y I	2535	1650	2028	1183
Y II	169		169	
Typhoon	<u>200</u>	----	<u>200</u>	----
Sub totals:	<u>6622</u>	<u>3847</u>	<u>4932</u>	<u>3062</u>
Total Conscripts:		<u>10469</u>		<u>7994</u>

WO/Career Enlisted

	<u>High Option</u>		<u>Low Option</u>	
	<u>NorFlt</u>	<u>PacFlt</u>	<u>NorFlt</u>	<u>PacFlt</u>
D I	198/54	198/54	132/36	154/42
D II	88/48		66/18	
D III	198/54	88/24	132/36	88/24
Y I	330/90	220/60	264/72	154/42
Y II	22/6		22/6	
Typhoon	<u>24/6</u>	-----	<u>24/6</u>	-----
Sub totals:	<u>860/258</u>	<u>506/138</u>	<u>640/174</u>	<u>396/108</u>
Total:		1366 WO <u>396</u> Career		1036 WO <u>282</u> Career
Grand Total Extended Service:		<u>1762</u>		<u>1318</u>

TOP SECRET

TOP SECRET

AUSCANUKUS-003-82

TABLE 3Total Soviet Submarine Force Conscript and Extended Service  
Personnel (S)

	<u>High Option</u>	<u>Low Option</u>
Conscripts	35326 (84%)	22984 (57%)
Extended Service	3352 (8%)	3143 (7%)

TOP SECRET

TOP SECRET

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Leningrad, Sevastopol, and Vladivostok, the two options are too high and too low respectively. A 15 percent turnover of conscripts every 6 months would result in about 5,300 conscript replacements needed for the high option, and 3,500 conscript replacements for the low option. The capacity of the submarine basic schools totals approximately 4,000 to 4,500. Vladivostok and Sevastopol each turn out 1,000 to 1,200 every 6 months, while the conscript capacity of the Leningrad school (which also trains officers, warrants, and extended enlisted) is estimated at about 2,000.

### 3. Replacement of Conscripts With Extended Service Personnel (U)

(U) Let us assume that the conscripts aboard SSBNs were to be reduced to 10 percent of their current strength, (i.e., only between 15 and 20 conscripts remained in each crew) and their numbers were replaced by warrant officer/extended service enlisted personnel on a one-for-one basis. (Such a force composition would represent a relatively liberal view of conscript use in the eyes of many who currently consider Soviet Navy manpower problems.) The results of such a procedure are shown in Table 4, where they are compared to the original high/low estimates, and to overall Soviet Navy personnel figures for conscripts and warrant officer/extended service personnel.

(S) Table 4 shows that replacing conscripts in the SSBN force with warrant officers and career enlisted personnel would utilize about one quarter of all extended service personnel in the Soviet Navy.<sup>16/</sup> This would impact most severely on the warrant officers, who are more numerous than career enlisted personnel, and from all indications represent much higher levels of technical and managerial knowledge and skills, as well as political reliability. In fact, there are many indications that career enlisted personnel in the Soviet Navy are a rather pedestrian lot, basically lacking the technical and military qualities required for warrant officers. For this reason, it is unlikely that great numbers of career enlisted (i.e., non-WO) personnel would be found aboard high technology units such as SSBNs. Thus, in order to meet the requirements for manning SSBNs with extended service personnel, wholesale "raiding" of warrant officer personnel would have to occur. Such raiding would be constrained by several factors, including warrant officer specialization and physical/psychological selection standards. It does not appear that the Soviets would assign to their SSBNs personnel who did not possess relevant technical skills or meet requisite physical and psychological criteria simply to fill crews in a peacetime environment.

(S) Some qualified warrant officer personnel could be obtained by raiding other submarine crews, but using the SOVA figures, a maximum of only about 2,500 of the 9,000 needed would be

TOP SECRET

TOP SECRET

AUSCANUKUS-003-82

TABLE 4Comparison of Alternative Configurations of the Soviet SSBN Force:Conscripts and Extended Service Personnel (U)

	<u>Initial Estimates</u>		<u>Revised Estimates (Reduction of Conscripts by 90%)</u>		<u>Overall Soviet Navy Strength</u>
	<u>High Option</u>	<u>Low Option</u>	<u>High Option</u>	<u>Low Option</u>	
Conscript	9099 (3.9%)	7994 (2.5%)	900 (.03%)	799 (.02%)	317,000
Ext.Serv.	1756 (.04%)	1318 (.05%)	9946 (28%)	8513 (24%)	35,000

TOP SECRET

TOP SECRET

AUSCANUKUS-003-82

in the submarine service, leaving about 6,500 to be recovered from the rest of the Soviet Navy. This would, of course, completely strip all other submarines, an alternative that hardly could seem attractive to the Soviets, particularly if it reduces the readiness of major ACW platforms. The burden of supplying the needed warrant officers would still fall on the surface fleet and shore establishment in which warrant officers play a very important role.

(C) If such raiding has occurred, it has not been clearly seen in the intelligence sources to date. Vague scattered reports of general "undermanning" of surface ships has appeared, but they have been difficult to verify and interpret. Further, [redacted] seems to indicate that civilian specialists may have supplemented warrant officers in the early years of the SSBN force, a condition which is certainly normal in light of U.S. experience, and still prevails in the U.S. SSBN force. It is likely that the use of selected civilian personnel still occurs in the Soviet SSBN force as well.

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#### 4. Discussion and Summary (U)

(S) The preceding review of the available quantitative data relevant to Soviet SSBN manning indicates that replacement of significant numbers (90%) of conscripts aboard SSBN units with extended service personnel would probably produce a serious personnel problem for the Soviet Navy, due to the relatively limited supply of warrant officers and career enlisted personnel, and the important roles played by warrant officers in the Soviet Navy, both afloat and ashore.

(C) The numbers developed in the analysis above are not precise: they obviously cannot be so. It is emphasized that these are estimates, based on the best available data. The analysis has been an attempt to use these data and to carry them to logical conclusions under various alternative force configurations and manning concepts. Reducing total crew size estimates (e.g., by 20%) or altering order of battle availability estimates will significantly change the results. Hotel Class SSBN figures were omitted from the estimates because of the relatively small number of units operating and their operational patterns. Further, reserve crews for nuclear and conventional non-SSBNs have been omitted from consideration. It is estimated that inclusion of such crews on a "1 reserve : 5 operational boats" ratio would provide an additional 500 sub-qualified extended service bodies in the non-SSBN force for raiding if raiding is going to be used for purposes of filling of the SSBN crews, but it would also increase the percentage of extended service personnel in the Soviet submarine service, and thus magnify the problem of replacing conscripts with extended service personnel.

TOP SECRET

TOP SECRET

AUSCANUKUS-003-82

C. Hypothetical Crew Structures (S)

(U) The estimates of conscript and extended service personnel developed above have been unsatisfactory from a variety of viewpoints: they have merely served to define the general area of interest. One might manipulate order of battle data to arrive at some point between these extremes that squares with other data, or one might attempt to develop revised crew composition estimates. The latter approach appears to be more fruitful, as it attacks the personnel problem directly.

(S) An examination of the data discussed above, as well as various other publications, indicates that a Soviet Y or D crew is probably composed of 130-135 men. SOVA estimates seem a bit high in terms of the conscript complement, and low in terms of extended service complements, and DIA total complement estimates appear to be a bit low, perhaps patterned on direct analogy to the U.S. SSNs and SSBNs.

(S) Assuming that a figure of 135 represents an average Y or D crew, the next problem is to estimate crew composition. It would be highly unlikely that the officer complement of such units would remain at the 8 to 10 percent level of the diesel boats. It should surpass the 17 percent (i.e., 23) figure of the relatively well-known Golf I class because of the sheer volume of advanced equipment aboard, and the important roles played by the officers in maintaining it. The SOVA data base holds 41 officers for a double crew for a Y/D, or about 19 percent of the total complement, but this seems a bit small since officers staff all combat departments, and four services with junior and senior officers are necessary for all watch and battle station situations. A figure of about 40-45 officers seems appropriate, based on our knowledge of Soviet Navy regulations, and submarine shipboard organization gained from HUMINT and open source literature. An estimated roster of officer positions has been drawn up, based on this information (see Table 5).

(S) We can assume that the extended service personnel (mainly, if not exclusively, warrant officer) would roughly mirror the officer allocation, with extended service personnel backing up each department and service head, and acting as battle station chiefs. Thus, approximately 40 to 45 extended service personnel, mainly warrant officers, would be in each crew.

(S) The conscript component of the crew should fall between the extremes represented by the SOVA data base (i.e., 77%) and the low figures of 7 to 8 percent conscripts represented in the alternative considered above (the replacement of all but 10 percent of the conscripts with extended service personnel). Allowing a

TOP SECRET



TOP SECRET

AUSCANUKUS-003-82

TABLE 5Estimated Officer Positions: (S)Y/D SSBNCommand Party (3)

Commanding Officer	Capt 1
Senior Assistant-XO	Capt 2
Political Assistant	Capt 2

Combat DepartmentsBch-1 (Navigation) (5)

Department Commander	Capt 3
Assistant Dept. Commander	K-L
Signalman Group Officer	Lt
Quartermaster Group Officer	Lt
Radionavigation Group Officer	Lt

Bch-2 (Missiles - Gunnery) (4)

Department Commander	Capt 2
Assistant Dept. Commander	K-L
Missile Group Officer	Lt
Computer/Fire Control Group Officer	Lt

Bch-3 (Torpedoes - Mines) (4)

Department Commander	K-L
Assistant Dept. Commander	Sr. Lt
#1 Torpedo Group Officer	Lt
#2 Torpedo Group Officer	Lt

Bch-4 (Communications) (5)

Department Commander	Capt 2
Assistant Dept. Commander	K-L
Radar Group Officer *	Sr. Lt
Radio Group Officer *	Sr. Lt
Sonar Group Officer *	Sr. Lt

(\* Further divided into teams, headed by Warrant Officers)

TOP SECRET

TOP SECRET

AUSCANUKUS-003-82

TABLE 5 (CONT'D)Bch-5 (Engineering) (20)

Department Commander	Capt 1
Assistant Dept. Commander	Capt 2
-Propulsion Division Officer	K-L
port reactor group officer	Sr. Lt
team officers (2)	Lts
starboard reactor group officer	Sr. Lt
team officers (2)	Lts
-Electrical Division Officer	K-L
port generator group officer	Sr. Lt
team officers (2)	Lts
starboard generator group officers	Sr. Lt
team officers (2)	Lts.
-Hull Engineering Division Officer	Capt 3
Hull group officer	Sr. Lt
Tankage group officer	Sr. Lt
Machinists group officer	Lt

Technical Services (4)

Medical Service Officer	K-L
Supply Service Officer	Lt
Radio-technical Service Officer	K-L
Chemical Service Officer	Lt

Summary of Organizational Levels

Combat departments	5
Technical services	4
Divisions	3
Groups and teams	25

TOP SECRET

TOP SECRET

AUSCANUKUS-003-82

total of 10 conscripts per watch in the five departments and a total of 15 in the four technical services, a total of about 45 conscripts is required. This number represents about 33 percent of the overall crew, or roughly midway between the extreme values represented above. The hypothetical Y/D crew developed above is thus composed of 135 personnel, equally divided between officers, extended service personnel, and conscripts.

(S) We can also assume that the numbers of extended service personnel would rise even higher aboard Typhoons and the number of conscripts decrease accordingly because of the complex technology aboard these new units. A figure of 10 conscripts and 80 extended service personnel seems appropriate for these more advanced units, at least initially.

(S) These values can now be used as a basis for a revised total submarine force conscript and extended service manning estimate. The estimate can be tested, as before, against the estimates of the overall size of the Soviet Navy officer, extended service, and conscript components, the estimated size of the Soviet submarine service, and the estimated school carrying capacity.

(S) The same general approach will be used as before, i.e., high and low options will be employed as defined above. The revised estimates for Y/D SSBN crews and Typhoon crews will be used. Other crew sizes will be as defined in the SOVA data base. In addition, reserve crews will be added to both the high and low option on the basis of one crew for every five boats of all types. The results are shown in Table 6.

(U) Evaluation of Table 6 figures indicates that for the first time, the high option figures become more plausible from a number of points of view:

1. (S) The reduction in the number of conscripts in the SSBN force resulting from use of the hypothetical crew structure for the Y/D class boats drops the conscript percentage of the total submarine force to about 73 percent, similar to that of the percentage of conscripts in the Soviet Navy as a whole.

2. (S) The percentage of extended service men (i.e., 16%) is twice that of the Soviet Navy as a whole (8%). This reflects the increased requirements for personnel with higher technical/managerial skill levels by the SSBN force, and represents a 100 percent increase in the total number of extended service personnel. This must certainly be a significant increase to the Soviets, but it would not cause the enormous drain on extended service personnel produced by replacement of 80 to 90 percent of SSBN conscripts with extended service personnel.

3. (S) The combined totals of conscript and extended service personnel leave about 12 percent for officer personnel in

TOP SECRET

TOP SECRET

AUSCANUKUS-003-82

TABLE 6Revised Conscript and Extended Service Estimates  
Soviet Submarine Force (S)

<u>Main Force</u>		<u>High</u>	<u>Low</u>
<u>Conscripts</u>			
SSBN		5,890	4,180
non-SSBN		19,055	15,011
Total		24,945	19,191
<u>Extended Service</u>			
SSBN		2,945	2,090
non-SSBN		2,364	1,579
Total		5,309	3,669
<u>Relief Crews</u>			
Conscripts			
(SSBN & non-SSBN)		4,393	4,393
Extended Service			
(SSBN & non-SSBN)		1,059	1,059
<u>Total Main and Relief Crews</u>			
Conscripts:	Main	24,945	19,191
	Relief	4,393	4,393
	Subtotal:	29,338	23,584
Extended Service:	Main	5,309	3,669
	Relief	1,059	1,059
	Subtotal:	6,368	4,728
<u>Total</u>		35,706	28,312

TOP SECRET

TOP SECRET

AUSCANUKUS-003-82

the submarine force, as opposed to 15 percent for the Soviet Navy as a whole. With the exception of the SSBNs, the percentage of officers in the Soviet submarine force (8 to 10%) is smaller than in the rest of the Soviet Navy.

4. (S) The low option figures for conscripts and extended service personnel seem too low in relation to the estimated total submarine force strength, and to the ratio of high technology units to diesel and older nuclear units.

5. (S) The addition of reserve crew conscript and extended service personnel requirements to the basic high option figures needed to man all available boats does not produce a serious overage in personnel in any category, nor does it cause significant changes in basic ratios between conscript, extended service, and officer personnel. Therefore, the Soviets could very well have a fairly consistent one-to-five reserve crew policy for all classes of units throughout the Navy.

6. (S) By this estimating process, the total number of conscripts in the submarine force afloat is thus far about 29,500. A biannual turnover rate of about 15 percent would require the replacement of approximately 4,400 conscripts every 6 months. This figure is approximately the carrying capacity of the three basic/specialist submarine schools noted above. (Note: Not all conscripts are sent directly from basic/specialist schools to SSBNs; engineering specialists, and possibly missile specialists undergo further formal training. Personnel may also go directly from basic/specialist school to training at the Paldiski complex, or they may serve initially on non-SSBN or even non-nuclear subs, receiving an SSBN assignment later as a result of performance. Thus we cannot expect that all vacancies formed in the Soviet SSBN force are to be filled directly from basic/specialist schools.)

7. (S) The figures in this analysis indicate the possibility of a rather delicate equilibrium between personnel supply and demand, such that any unusual requirements placed on the system for large numbers of personnel (e.g., to man larger numbers of larger SSBNs) would cause dislocation almost immediately. There does not appear to be any capacity in the existing manpower system to absorb such demands, without crew raiding or changing terms of service, and calling larger numbers of reserve officer personnel (e.g., graduates of Higher Merchant Marine Schools) to fulfill their military obligations in the submarine force.

#### D. Summary and Conclusions (S)

(S) The evidence presented makes a strong case for the utilization of conscripts aboard Soviet SSBNs. Computations using hypothetical crew configurations, force structures, and school capacities based on the best evidence available indicate that the

TOP SECRET

TOP SECRET

AUSCANUKUS-003-82

number of conscripts called for by the SOVA data base may be too large in both absolute and relative terms (i.e., relative to extended service and officer personnel). The same computations also indicate quite clearly that replacement of large numbers (c. 90%) of conscripts with extended service personnel would seriously tax the capability of the Soviet Navy: there are simply not enough qualified extended service personnel available without stripping surface and shore units, if what we currently know about Soviet Navy rank structure is in fact true. A hypothetical Y/D SSBN crew structure of 135 men, consisting of one third officer, one third extended service and one third conscript, seems to fit well with other estimates on force size, providing ample room for double crewing and relief crewing on a 5:1 basis throughout the remainder of the submarine force. Again, this estimate is only as valid as the estimates and data against which it is evaluated, and we are drawn back to considering how well we know what we believe we know about Soviet Navy personnel (and Soviet military personnel in general). A number of fundamental questions are raised by this analysis: depending on the answers to these questions, significant alterations may have to occur in areas that have long been taken for granted. The major questions and some of their implications are listed below.

1. (S) Is the Soviet Navy really a 75 percent conscript force or is this an artifact of our own estimates and estimating procedures?

2. (S) Does the composition of the Soviet submarine force accurately represent the structure of the Soviet Navy, or must we make allowances for large proportions of extended service personnel in that force, particularly aboard SSBNs?

3. (S) Is the Soviet Navy reenlistment rate really only 1-2 percent, or are there substantially larger proportions of personnel being drawn into the extended service ranks, e.g., directly from basic school, (recruitment for warrant officer programs sometimes occurs in the initial weeks of basic), retraining after initial separation from the service, etc.? How much trust can we put in HUMINT estimates of reenlistment rates from 10-15 years ago? (Would any who have served in the ranks be able to give an estimate of the number of career personnel in his unit?)

4. (S) What is the objective basis for denying that conscripts can play a role aboard SSBNs while accepting that they can and do appear aboard SSBs, SSNs, and SSGNs? General upkeep requirements alone require the presence of lower ranks, not to mention innumerable tedious low-skill level technical tasks. These requirements must be met aboard SSBNs as well as aboard SSGNs and SSNs.

TOP SECRET

TOP SECRET

AUSCANUKUS-003-82

5. (S) If unit manning estimates do not accurately reflect the composition of those crews, then both manpower and cost estimates based on such estimates will err in direct proportion to the magnitude of errors at the lowest level in the estimation process.

(S) In view of these considerations, careful attention might be devoted to detection of indications of difficulty in manning larger numbers of advanced SSBNs--and other high technology nuclear boats. Such indications might include:

1. (S) increased numbers of conventional boats in "reserve" or "unavailable" status,

2. (S) reduction of extended service personnel on surface combatants, particularly in submarine-related specialities,

3. (S) reduction of Navy extended service personnel in the auxiliary fleet,

4. (S) increased utilization of Merchant Marine officers on active reserve duty to man older conventional subs, and possibly first generation nuclear boats, and/or to relieve qualified officers on surface combatants,

5. (S) selective retention of SSBN force conscript personnel on their initial active service obligation,

6. (S) increased "not-available" values for the SSBN order of battle,

7. (S) alterations in dual-crew and relief crew policies,

8. (S) major changes in SSBN operational patterns (significant increases or decreases in deployment frequency and duration),

9. (S) increased numbers of civilian specialists aboard operational SSBNs.

(S) The rapid expansion of the Soviet SSBN force, an apparently elite force using the most modern technology available to the USSR, gives us the opportunity to reexamine many basic assumptions concerning Soviet Navy manpower, training, and readiness, as we observe the Soviets meeting the personnel challenge that they have created. This challenge may cause them to modify many long-standing policies in order to ensure a steady supply of quality personnel. On the other hand, the study of their activities

TOP SECRET



TOP SECRET

AUSCANUKUS-003-82

in meeting the challenge may enable us to revise our own views on many aspects of Soviet Navy manpower, as well as our overall assessment of the threat posed by the SSBNs.

(S) The Soviet Navy manpower system, like that of all Soviet services, appears to be an integrated system: pressures or demands exerted at one point will ultimately produce reverberations throughout the other portions of the system, particularly if these demands are for technologically skilled personnel who are in short supply. Hypotheses concerning manning in any area of the Soviet Navy must be considered against the overall Navy manpower system, as well as against the source validity of our information on that system.

TOP SECRET

TOP SECRET

AUSCANUKUS-003-82

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 MS - Morskoy Sbornik  
 SV - SovietSKIY Voin  
 VZ - Voiniy Znaniye  
 Z - Znamenosets

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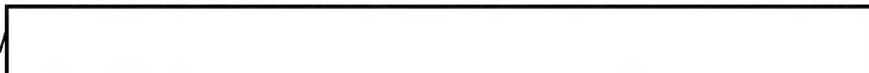
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TOP SECRET

**TOP SECRET**

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